

## **SPECIFICATION**

### **TITLE OF INVENTION**

**Shower Caddy Fastener**

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### **CROSS-REFERENCE TO RELATED APPLICATIONS**

**Not Applicable**

### **STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT**

**Not Applicable**

### **REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING COMPACT DISK APPENDIX**

**Not Applicable**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention**

This invention is generally directed to shower caddies and more specifically to a shower caddy fastener, which is designed to securely mount a shower caddy to shower supply piping.

### **2. Brief Discussion of the Related Art**

Shower caddies are commonly constructed with central arch sections for the purpose of suspending them from a showerhead pipe.

One problem inherent with this means of suspension is its instability. Shower caddies are typically made of materials with low frictional coefficients, such as metal and smooth plastic, and likewise showerhead pipes are typically made of polished steel, which also has a low frictional coefficient. Materials with low frictional coefficients slide easily. When caddies carry normal loads, such as shampoo bottles and soap, the caddy will occasionally slide suddenly toward the showerhead.

This problem of sudden instability is due to the shower caddy design. First, as previously mentioned, the caddy materials slide easily. Second, suction cups, often used to provide stability to shower caddies, lose their seal over time. Third, this loss of seal is accelerated by the position of the load on the caddy. The lower portions of the caddy frame usually rest against the shower wall, forming a fulcrum. The load placed on a shelf above the fulcrum results in a force pushing outward from the shower wall. Without a top fastener to counteract the leverage created by the load and fulcrum, the caddy becomes unstable and slides down the showerhead pipe.

The present inventor is unaware of any shower caddy fastener, which is separate from and independent of the caddy itself, and which can provide secure attachment for common shower caddies regardless of their specific manufacture or design.

#### **BRIEF SUMMARY OF THE INVENTION**

The present invention comprehends a convenient, easy to use fastener for securely fastening most commonly found shower caddies to the showerhead pipe.

Briefly stated, according to the present invention there is provided a flexible strip or band which wraps around the showerhead pipe, attaches to itself, and also attaches to the concave arch section used to suspend the shower caddy.

According to the preferred embodiment, the shower caddy fastener band includes two properties present in the material from which it is formed: elasticity and a high frictional

coefficient. Elasticity enables the band to attach to itself securely. The elasticity also improves the grip of the material to the shower pipe. The high frictional coefficient of the material means that even a mild force pressing the band toward the pipe results in a strong frictional attachment between the shower pipe and the band. In this case, the force comes from the elasticity of the band when it is wrapped around the pipe and fastened end-to-end, and from the weight of the caddy with its load when it is attached to the band.

The shower caddy fastener according to the present invention includes several key properties in its design. The first property is its means of self-attachment. An aperture in one end of the band slides over a protrusion on the opposite end. This protrusion serves the dual function of attaching the ends of the band together and of holding the shaft of the caddy's concave central arch.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

FIG. 1 is a top plan view of the shower caddy fastener.

FIG. 2 is a bottom plan view of the shower caddy fastener.

FIG. 3 is a side elevation view of the shower caddy fastener.

FIG. 4 is a side elevation view of the shower caddy fastener.

FIG. 5 is a front elevation view of the shower caddy fastener.

FIG. 6 is a rear elevation view of the shower caddy fastener.

FIG. 7 is a side elevation view of the shower caddy fastener, wrapped around the shower water supply pipe and holding the central arch section of a shower caddy.

## DETAILED DESCRIPTION OF THE INVENTION

Figures 1 – 7 illustrate a shower caddy fastener according to the present invention.

FIG. 1 shows the present invention, which includes a band 1 that wraps around the shower water supply pipe. The band 1 is constructed of an elastic material, which does not easily slide, such as rubber.

The shower caddy fastener includes an aperture 4 in the front end of the band, which is shaped and sized so as to fit tightly around a vertical protrusion 2 on the rear end of the band. This protrusion facilitates the attachment of the two ends of the band to each other while also providing a means to hold the central arch of a shower caddy to the band 1. The ledge 3 secures the end of the band in place by resting on top of the portion of the band that forms the front edge of the aperture 4.

FIG. 2 shows the bottom of the band 1, which includes a representation of the aperture 4.

FIG. 3, depicting a side view of the shower caddy fastener, clarifies that the protrusion 2 rises vertically and perpendicularly from the band 1. This view shows that the ledge 3 protrudes perpendicularly from the surface of the protrusion 2 to which it is attached and parallel to the surface of the band 1.

The ledge 3 is raised to a distance above the surface of the band 1 such that the front edge of the aperture 4 fits securely between the ledge and the band.

The protrusion 2 of the shower caddy fastener includes an opening represented by the shaded area 5 through which the central arch of a shower caddy can be inserted. The arch is then secure within a cylindrical cavity.

FIG. 4 depicts the view of the shower caddy fastener of the side opposite to the side depicted in FIG. 3. It is identical to the side depicted in FIG. 3 except there is no opening in the wall on this side of the protrusion 2.

FIG. 5 shows a front view of the shower caddy fastener and further details the construction of the protrusion 2. The lengthwise opening 5 leads to a cylindrical cavity 7. A circular opening that extends lengthwise through the protrusion 2 forms the cylindrical cavity. The lowest line of the cylindrical cavity 7 is on the same level as the upper surface of the ledge 3.

The upper wall 6 enclosing the cylindrical cavity 7 tapers in thickness as it reaches its termination at the opening 5. The construction of the upper wall 6 is such that it is both flexible and durable, permitting the insertion and removal of the central arch of a shower caddy with minimal exertion while also securing the arch in place.

FIG. 6 depicts the rear elevation view of the shower caddy fastener. In this view only that portion of the ledge 3 is visible which protrudes beyond the side surfaces of the protrusion 2.

FIG. 7 displays the shower caddy fastener, as it would be used to fasten a shower caddy to a showerhead pipe. The band 1 wraps around the pipe, depicted by the circular cross-section 8. The length of the band is such that the elastic material of which it is composed will be mildly stretched when completely wrapped around a standard showerhead pipe and properly fastened to itself. The end of the band fits over the protrusion 2, as previously detailed, and fits securely between the ledge 3 and the top surface of the band 1.

Item 9 represents a partial view of the central arch of a shower caddy, which inserted through the opening 5, is secured in the cylindrical cavity.